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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/779,961	02/09/2001	Joseph Melkian	60,130-930	7580

7590

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EXAMINER

MCHENRY, KEVIN L

ART UNIT

PAPER NUMBER

1725

DATE MAILED: 07/02/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/779,961

Applicant(s)

MELEKIAN ET AL.

Examiner

Kevin L McHenry

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Drawings

1. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 11 cite an axle housing surface. However, the specification teaches that in this case the "axle housing provides a protective covering for the differential that couples the drive shaft to the axle". In light of this teaching, it is unclear if the claimed axle housing is the housing for an axle, such as an axle linking a wheel to a differential, or if the axle housing is a covering for the differential. Therefore, the scope of the claim is indefinite. For examination purposes the examiner interpreted this language to mean a "differential housing surface".

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-3, and 9-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glaze et al. (U.S.P. 4,754,847) in view of Gale (U.S.P. 1,323,178).

Glaze teaches a differential housing that has a curved surface and has a snorkel, particularly a rear housing portion, fastened to its surface (see U.S.P. 4,754,847; particularly Figures 1 and 5; column 6, lines 32-41).

Glaze does not teach how the differential housing surface and snorkel are fastened together.

Gale teaches a process of welding surfaces together, particularly asymmetrical surfaces with different cross sections, by creating an electric potential between surfaces to be welded when they are brought closely together so that an electric discharge, or sparking contact, is made. This electric discharge creates heat at the surfaces and allows the surfaces to be welded together (see U.S.P. 1,323,178; particularly Figures 2, 3, and 5; page 1, lines 11-25, 44-48; page 2, lines 17-25, 39-42, 58-62; page 3, lines 59-67).

It would have been obvious to one of ordinary skill in the art at the time that the applicant's invention was made to have modified the teachings of Glaze by those of Gale. One would have been motivated to do so in order to provide a means of fastening the differential housing surface and the snorkel together.

In regards to product claims 11-20, it appears that the instantly claimed product by process is the same as that which is claimed (a differential housing surface joined to a snorkel by flash butt welding or frictional welding). When the examiner has found a substantially similar product as in the applied prior art, the burden of proof is shifted to applicant to establish that their product is patentably distinct and not the examiner to show the same process as making. *In re Brown*, 173 USPQ 685 and *In re Fessmann*, 180 USPQ 324.

6. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glaze et al. (U.S.P. 4,754,847) in view of Gale (U.S.P. 1,323,178) as applied to claims 1-3, and 9-20 above, and further in view of Cox (U.S.P. 2,911,516).

The former references teach the process as described above in section 5. However, these references do not teach that the surfaces are moved apart, moved back in proximity to one another, applied together, and then repeated until the surfaces are welded together.

Cox teaches a process of flash butt welding surfaces together in which the surfaces to be welded have an electrical potential between them and the surfaces are brought together. The surfaces are then spread apart. Cox teaches that this process is repeated until the surfaces are uniformly heated to a welding temperature and then the surfaces are forced together to complete the weld (see U.S.P. 2,911,516; particularly column 1, lines 27-37).

It would have been obvious to one of ordinary skill in the art at the time that the applicant's invention was made to have modified the process described above by the

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teachings of Cox. One would have been motivated to do so in order to have provided a method of uniformly heating the surfaces to the welding temperature before fastening them together.

7. Claims 1, 6 and 8-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glaze et al. (U.S.P. 4,754,847) in view of Gale (U.S.P. 1,323,178).

Glaze teaches a differential housing that has a curved surface and has a snorkel, particularly a rear housing portion, fastened to its surface (see U.S.P. 4,754,847; particularly Figures 1 and 5; column 6, lines 32-41).

Glaze does not teach how the differential housing surface and snorkel are fastened together.

Larsen teaches a process of friction welding surfaces together in which one surface is rotated relative to another surface. Larsen teaches that this process allows for rotational friction welding in which the rotated part can be precisely oriented by its rotational position to the fixed surface. Larsen rotates parts that are oblong and asymmetrical about a rotational axis (see U.S.P. 4,552,609; particularly Figure 10; column 1, lines 5-35; column 2, lines 10-18; column 5, lines 6-13).

It would have been obvious to one of ordinary skill in the art at the time that the applicant's invention was made to have modified the teachings of Glaze by those of Larsen. One would have been motivated to do so in order to provide a means of fastening the differential housing surface and the snorkel together.

In regards to product claims 11-20, it appears that the instantly claimed product by process is the same as that which is claimed (a differential housing surface joined to a

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snorkel by flash butt welding or frictional welding). When the examiner has found a substantially similar product as in the applied prior art, the burden of proof is shifted to applicant to establish that their product is patentably distinct and not the examiner to show the same process as making. *In re Brown*, 173 USPQ 685 and *In re Fessmann*, 180 USPQ 324.

8. Claims 1, 6, 7, and 9-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glaze et al. (U.S.P. 4,754,847) in view of Brownell et al. (U.S.P. 6,095,402), Walker et al. (U.S.P. 6,106,233), or Mahoney et al. (U.S.P. 6,237,834).

Glaze teaches a differential housing that has a curved surface and has a snorkel, particularly a rear housing portion, fastened to its surface (see U.S.P. 4,754,847; particularly Figures 1 and 5; column 6, lines 32-41).

Glaze does not teach how the differential housing surface and snorkel are fastened together.

Brownell et al., Walker et al., and Mahoney et al. all teach methods of fastening surfaces together by linear friction welding. In each of these references the surfaces have different shapes and different cross sections where they are joined (see U.S.P. 6,095,402; particularly Figure 6; column 2, lines 7-12; column 6, lines 15-18; see U.S.P. 6,106,233; particularly Figure 3; column 3, lines 1-17; see U.S.P. 6,237,834; particularly Figure 2; column 1, lines 9-11).

It would have been obvious to one of ordinary skill in the art at the time that the applicant's invention was made to have modified the teachings of Glaze by those of Brownell et al., Walker et al., or Mahoney et al. One would have been motivated to do so

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in order to provide a means of fastening the differential housing surface and the snorkel together.

In regards to product claims 11-20, it appears that the instantly claimed product by process is the same as that which is claimed (a differential housing surface joined to a snorkel by flash butt welding or frictional welding). When the examiner has found a substantially similar product as in the applied prior art, the burden of proof is shifted to applicant to establish that their product is patentably distinct and not the examiner to show the same process as making. *In re Brown*, 173 USPQ 685 and *In re Fessmann*, 180 USPQ 324.

Conclusion

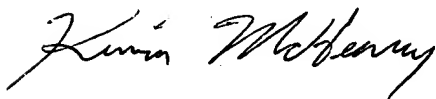
9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kuchuk-Yatsenko et al. (U.S.P. 4,733,044), Tonelli (U.S.P. 3,251,127), and Reed (U.S.P. 1,828,340) are cited of interest for illustrating the state of the art in flash welding and friction welding processes.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin L McHenry whose telephone number is (703) 305-9626. The examiner can normally be reached on M-F.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas G Dunn can be reached on (703) 308-3318. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-6078 for regular communications and (703) 305-6078 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

A handwritten signature in cursive script, appearing to read "Kevin McHenry".

June 26, 2002

A handwritten signature in cursive script, appearing to read "M. A. Elve".
M. ALEXANDRA ELVE
PRIMARY EXAMINER